

Claims:

1. A temperature compensating package for an optical fiber device comprising: a support structure of a material having a negative coefficient of thermal expansion (CTE); and securing means located in the support structure for securing opposed ends of an optical fiber device passing therethrough, at least one of said securing means being of a material having a positive CTE and adjustable lengthwise.
2. A temperature compensating package as defined in claim 1 wherein said at least one securing means has a threaded screw portion and a complementary nut portion.
3. A temperature compensating package as defined in claim 1 wherein said support structure is an alumino-silicate glass ceramic tube.
4. A temperature compensating package as defined in claim 1 wherein said at least one securing means is a metal with relatively high CTE such as brass.
5. A temperature compensating package as defined in claim 1 wherein said at least one securing means is a metal with relatively high CTE such as aluminum.
6. A temperature compensating package as defined in claim 1 having securing means that are adjustable lengthwise at each end of said support structure.
7. A temperature compensating package as defined in claim 6 wherein said securing means have different positive CTE values.
8. A method of providing thermal compensation to an optical fiber device comprising:  
providing a support structure for said optical fiber device, said support structure being of a material having a negative coefficient of thermal expansion and having securing means at each end, at least one of said securing means being of a material having a positive coefficient of thermal expansion and adjustable lengthwise;

adjusting said at least one securing means to establish a base thermal compensation value; and

securing said optical fiber device to said securing means within said support structure;

9. The method as defined in claim 8 wherein said at least one securing means has a threaded portion and a complementary nut portion whereby rotation of said nut relative to said threaded portion adjusts tension on said optical fiber device.
10. The method as defined in claim 8 wherein said optical fiber device is a fiber grating.
11. The method as defined in claim 10 wherein said support structure has a negative coefficient of thermal expansion which is in excess of that which is required to compensate for thermal dependence of said optical device.
12. A fiber optical device assembly with associated thermal compensation comprising:
  - an optical fiber having a fiber optical device therein;
  - a support structure of a material having a negative coefficient of thermal expansion through which said optical fiber extends;
  - securing means in each end of said support structure, said securing means securing said optical fiber on opposite ends of said optical fiber device, at least one of said securing means being of a material having a positive coefficient of thermal expansion and being adjustable longitudinally of said optical fiber.
13. The fiber optical device assembly according to claim 12 wherein said at least one securing means comprises a threaded portion and a complementary nut portion wherein rotation of said nut on said threaded portion adjusts tension on said optical fiber device.
14. The fiber optical device assembly according to claim 13 wherein said support structure is an alumino-silicate glass ceramic tube.

15. The fiber optical device assembly according to claim 14 wherein said at least one securing means is made of a material with a relatively high CTE such as brass.
16. The fiber optical device assembly according to claim 14 wherein said at least one securing means is made of a material with a relatively high CTE such as aluminum.
17. The optical device assembly according to claim 12 wherein said optical fiber device is a fiber grating
18. The optical device according to claim 15 wherein said at least one closure means is used to fine tune thermal compensation of said optical device.